

Please add Claims 13-16 as follows:

Sub
C1
--13. A memory controller comprising:

a serial/parallel converter section for converting bit width a (where a is a positive number) of an input data signal into a width N times ($N \geq 4$) as long as a ;

a first FIFO memory of $a*N$ bits in width for storing temporarily the signal after it has been subjected to the serial/parallel conversion; and

a frame memory having a capacity of a single frame for reading data at the same frequency as the input frequency of the input data after storing a predetermined quantity, $a*N*L$ bits (where L is an integer), of the data into said first FIFO memory, and for storing the data read out from said first FIFO memory;

a memory controller for reading from and writing into said frame memory by driving successively as a single block;

a second FIFO memory having width $a*N$ for reading from said frame memory at the same frequency as the input data and for storing temporarily the data, such that, after storing data of a predetermined quantity $2*a*N*L$ into said second FIFO memory, the data is read at a frequency a half of the frequency of the input data, wherein

a continuous period of writing into and reading from said frame memory is designed as an L cycle, a single time of continuous writing period and two times of continuous reading period are performed during a period $N*L$, an instruction period (including latency) instructing the memory necessary for performing continuous access to the frame memory is the same as or shorter than a remaining period, $N*L-3*L$, so that a first FIFO size is set as $a*N*L$ bits, and a second FIFO size is set as $a*N*2*L$ bits.

14. A liquid crystal display comprising a memory controller according to claim 13.

15. A memory controller comprising:

a serial/parallel converter section for converting bit width a (where a is a positive number) of an input data signal into an width M times ($M \geq 4$) as long as a ;

a first FIFO memory of $a \cdot M$ bit width for storing temporarily the signal after it has been subjected to the serial/parallel conversion; and

a frame memory having a capacity of a single frame for reading data at a frequency half of the input frequency of the input data after storing a predetermined quantity, $a \cdot M \cdot L$ bits (where L is integer), of the data into said first FIFO memory, and for storing the data read out from said first FIFO memory;

a memory controller for reading from and writing into said frame memory by driving successively as a single block;

a second FIFO memory having width $a \cdot M$ for reading from said frame memory at a frequency half of the frequency of the input data and for storing temporary the data, such that, after storing data of a predetermined quantity $2 \cdot a \cdot M \cdot L$ into said second FIFO memory, the data is read at a frequency a half of the frequency of the input data, wherein

a continuous period of writing into and reading from said frame memory is designed as an L cycle, a single time of continuous writing period and two times of continuous reading period are performed during a period $M \cdot L$, an instruction period (including latency, instructing the memory necessary for performing continuous access to